FLIGHT PROJECTS DIRECTORATE
EXTERNAL CARRIERS GROUP
FD23

DATA MANAGEMENT PLAN

CHECK THE MASTER LIST-
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline release	-	November 22, 2000	New release
Revision	A	October 7, 2002	To break out the Pressurized and External Carriers Group Requirements, delete the Quality Records Table 1, reference Organizational Instruction, Management Process FPD OI-FD23.1, Rev J, and reference PCP FD23-DLP-001 thereby referencing the External Carriers Master List.

**MSFC EXTERNAL CARRIERS
DATA MANAGEMENT PLAN
SIGNATURE PAGE**

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1.   PURPOSE

The MSFC External Carriers (EC) Group Data Management Plan (DMP) defines requirements, responsibilities, and procedures for the data management (DM) system that will be applied to the EC development/integration activities at MSFC. The purpose of this document:

- Define the standard and optional Data Management (DM) activities and records for EC projects and activities as required by MPG 7120.3, MWI 7120.2, and MWI 7120.3.
- Specify the records management and quality records management and retention schedules.
- Define document control processes for non-CCB controlled EC group, project and activity documentation.
- Identify the scope of DM information security measures for web-based applications, proprietary data rights, as well as processes for export data.

2.0   APPLICABLE DOCUMENTS

The following documents form a part of this plan to the extent specified in the text.

FD23-CM01	External Carriers Group Configuration Management Plan
NPG 1441.1	NASA Records Retention Schedules
NPD 7120.4	Program/Project Management
NPG 7120.5	Program/Project Management
MPD 1280.1	Marshall Management Manual
MPG 1440.2	MSFC Records Management Program
MPD 2190.1	MSFC Export Control Program
MPG 2190.1	MSFC Export Control Program
MPD 2210.1	Documentation Input and Output of the MSFC Documentation Repository
MWI 2210.1	MSFC Documentation Repository Input/Output and Data Management Project Requests
MPG 7120.1	Program/Project Planning
MPG 7120.3	Data Management, Programs/Projects
MWI 7120.2	Data Requirements Identification/Definition
MWI 7120.3	Program/Project Data System (PDS)
MWI 7120.4	Documentation Preparation Programs/Projects
MWI 7120.5	Data Management Plans, Programs/Projects
MPG 8040.1	Configuration Management, MSFC Programs/Projects
FD23-DLP-001	Data Library Project, Project Control Plan
FPD-OI-FD23.1	Organizational Instruction, Management Process

3.0   ABBREVIATIONS AND ACRONYMS

Term	Description
CCB	Configuration Control Board
CER	Center Export Representative
C&DM	Configuration and Data Management
CM	Configuration Management
DCP	Document Control Process
DM	Data Management

DMP	Data Management Plan
DRD	Data Requirements Directives
DRL	Data Requirements List
EC	External Carriers
HHRS	Hardware History Retrieval System
ISO	International Standard Organization
ISS	International Space Station
MMI	Marshall Management Instruction
MPD	Marshall Management Directive
MSFC	Marshal Space Flight Center
NASA	National Aeronautics and Space Administration
NPD	NASA Policy Directive
NPG	NASA Policy Guidance
OPR	Office of Primary Responsibility
PALS	Program Automated Library System
PC	Personal Computer
POC	Point of Contact
PRACA	Problem Reporting and Corrective Action System
SE	Sustaining Engineering
SOW	Statement of Work
SSP	Space Station Program
URL	Universal Resource Locator

4.0   ORGANIZATIONAL RESPONSIBILITY

The Data Management Plan applies to all projects and activities within the External Carriers Group and supporting organizations as specified.

4.1   EXTERNAL CARRIERS GROUP (EC) AND TEAMS

The EC Group Leader is the Group Data Manager. Team Leaders and Project Managers implement DM requirements within the guidelines of this document and as directed by the EC Group Leader. See Figure 1 for organizational structure.

4.2   EC PROJECTS

EC Project Managers are the Project Data Managers or they will assign Data Managers within their projects. Each Project will develop a Project Data Management Plan as a quality record. The DM Plan may be a part of the Project Plan.

4.3   FLIGHT PROJECTS TEAM, CONFIGURATION AND DATA MANAGEMENT (C&DM) GROUP

The Flight Projects Team, C&DM Group will support the EC Group as negotiated through Collaborative Work Commitments and special tasks required to implement DM requirements and planning.

4.4   OTHER ORGANIZATIONS

Organizations supporting the EC Group will prepare, review and concur in documentation in their areas of responsibility.

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                        │   EC GROUP   │
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┌───────────────┐      ┌───────────────┐      ┌──────────────────┐
│ PAYLOAD       │      │ PROJECT       │      │ SYSTEMS          │
│ CARRIERS      │      │ DEVELOPMENT   │      │ ENGINEERING      │
│ TEAM          │      │ TEAM          │      │ TEAM             │
│               │      │               │      │ (SUPPORTS ALL    │
│               │      │               │      │ PROJECTS)        │
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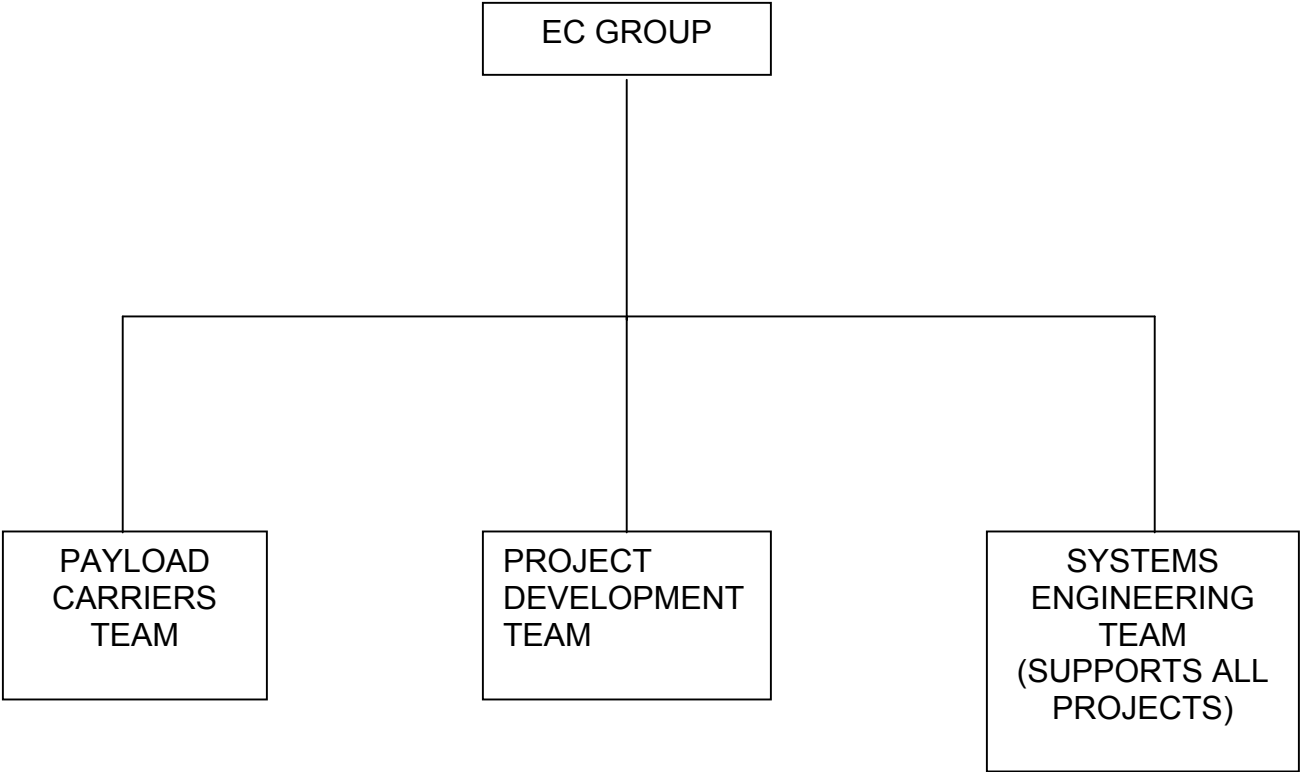
FIGURE 1:   EXTERNAL CARRIERS GROUP

5.0   RESPONSIBILITIES

5.1   TYPICAL DM ELEMENTS AND ACTIVITIES

EC Group data management functions and documentation implementing NASA, MSFC and ISO 9000 data management requirements include the following as appropriate to each project:

- Develop DM Plan per MWI 7120.5
- Define Document Control Process (DCP) for non-configuration controlled documentation per MPG 7120.3
- Develop Contract SOW'S and DM data requirements and products
- Identify/define Project data requirements
- Receive, track and distribute Project deliverable data
- Develop and maintain project Master List per MPG 7120.3
- Identify Group and Project Master List Custodian(s)
- Compile technical/design review packages
- Administer Technical/Design Reviews
- Compile Acceptance Data Packages

6.0   DATA IDENTIFICATION/DEFINITION

The DM system provides timely and economical identification, acquisition, and delivery/access of essential data in support of the program. Basic contract data requirements are established in the Data Procurement Document (DPD) 846 section of the contract. The DPD section of the contract is recognized as the sole source for identification of deliverable data. A DPD identifies the data items, establishes the delivery schedules, specifies the recipients and their respective quantity requirements, and prescribes the content and format of the deliverable data items. The DPD, with reference Statement of Work (SOW) and Work Breakdown Structure (WBS) numbers, is the preparation instruction that defines the contractual obligation concerning deliverable data items.

For future in house projects, the EC Group and Projects will have an overall Data Requirements List that covers all documentation not covered in the section in the Project Control Plans. The DRL will describe the content requirements of the document, delivery milestones, etc.

6.1   DATA TYPES

The Office of Primary Responsibility (OPR) for each document assigns one of the following data types in the appropriate block on the DRD form. The data type defines the level of control and approval for each specific data requirement. The type of control necessary to change the document is the primary driver for determining the documentation type. Listed below are the data types and descriptions.

Type I   Data requirements that require written approval from the requiring organization before formal release for use or implementation.
For In-house documents, Type I documents are under the control of a MSFC External Carriers (EC) Group Configuration Control Board (Level III CCB) or Project CCB. Type I In-house documents are released through the MSFC Release Desk or Project Release Desk and stored in the MSFC Repository and DM Library.

Type II   Data requirements that must be approved by the requiring organization within 45 days of submittal, or they become automatically approved. In-house documents require approval from the appropriate EC Group or Project Manager prior to formal release. The project managers may delegate by memoranda approval authority for certain Type II documents to the Project Chief Engineer. In-house Type II documents, however, are not under formal CCB control. Project Managers or Chief Engineers signatures control these documents. The Project Office assigns project numbers to these Type II documents. The Project Office releases the documents and the document developer provides the distribution list. The documents are stored in the MSFC Repository and the DM Library.

Type III   Data requirements that require neither Project approval nor formal release for use or implementation. Type III documents are not under formal CCB control. These documents are not released or distributed through an official process and are maintained by the document developer, who provides a copy to the DM Library.

7.0 DOCUMENT PREPARATION – FORMAT AND NUMBERING

MSFC documents prepared for the EC Group shall meet the format requirements of MWI 7120.4. Documents may use the MSFC numbering system as defined in MWI 7120.3 or may use an EC group and project unique numbering system as detailed below and according to the following criteria. Documents previously marked are not required to be re-numbered. To prevent duplication and to have a record of document numbers and documentation titles, a numbering system will be controlled and assigned by the EC Group DM.

- All documents developed within EC which are not assigned MSFC document numbers will contain a Group Identifier (FD23), a type identifier (CM, DM, PLAN, REQD) and a sequential numerical designation.
- Single Project Documents will include a three or four- digit Project identifier and numerical designation within the project (ex: FD23-MPLM-001, FD23-KER-001).
- Individual projects may choose to establish a project unique numbering system if that system is defined in the project plan or project data management plan.

8.0 DOCUMENT CONTROL

Formal EC Group/Project Document Control Boards as defined in MWI 7120.3 are not presently required by the EC Group. Configuration Control Boards (CCB'S) and the CCB control process are described in FD23-CM01. EC documents not controlled by a CCB will be reviewed by the appropriate design and programmatic disciplines and submitted for management signature according to the following criteria:

Documents requiring MSFC level approval per NPD-7120.4 or MPD 1280.1 will be reviewed by all disciplines before being submitted to the MSFC DCB for processing.

Documents that may be approved at organizational level will be reviewed by all applicable disciplines and be submitted for Project, Group, and higher-level approval as required.

8.1   DOCUMENT REVISION

Document OPRs have the authority to revise documents/forms under their control. Revision of documents is noted in the Document History Log.

8.2   DISTRIBUTION and CONTROL

Controlled documents/forms are available through the ECG MASTER LIST website which will include the statement, "*check the MASTER LIST-verify this is the correct version before use."*

8.3   EXPORT CONTROL

All EC Group and project activities shall be subject to export control requirements as defined in MPG 2190.1 and MWI 2190.1. Export control pertains to:

- All official documentation,
- Any correspondence available to a foreign agent or distributed outside the United States, and
- Development of any website available to the general public.

Personnel involved with any of the above shall coordinate with the Flight Projects Directorate Center Export Representative (CER) for compliance with export regulations. In addition, document developers, with the assistance of the CER, shall submit MSFC Form 2896, Document Input Record, with all official documents.

8.4   DOCUMENTATION RELEASE

When the Project Office approves documentation for baselining, DM prepares the documentation and completes forms in preparation for distribution and release.   The project managers may release documentation through the MSFC Release System or the Project Release System.

8.4.1   MSFC RELEASE SYSTEM

For documentation being released through the MSFC Release System, the Office of Primary Responsibility (OPR) shall obtain an MSFC number from the MSFC Release Desk. The documentation is then submitted to the MSFC Release Desk where personnel shall check for compliance with MSFC-STD-555 - "MSFC Engineering Documentation Standard" before releasing and forwarding to the MSFC Repository for distribution and storage.

8.4.2   PROJECT RELEASE SYSTEM

For documentation being released through the Project Office Release System, the Office of Primary Responsibility (OPR) shall obtain a project number from the Project Data Management Office Release Desk. The documentation is then submitted to the Project Data Management Office Release Desk, where personnel shall check for compliance using MSFC-STD-555 – "MSFC Engineering Documentation Standard" as a guideline before releasing and forwarding the documents to the MSFC Repository for distribution and storage. A completed MSFC Document Input Form 2896 must be completed and attached to the documentation when submitted to the MSFC Repository.

8.4.3   PROJECT CLOSEOUT

Project Managers will maintain Project Records for up to five (5) Months and then transfer the Project Records to the FD23 Library in accordance with PCP FD23-DLP-001.

9.0   DATA DISPOSITION AND ACCESS

9.1   MASTER LISTS

As specified in MPG 7120.3, EC Group and Project Master Lists, shall be maintained by the Flight Projects Team, C&DM Group, unless other arrangements are made by individual projects. The EC Group Master List is electronically accessible from the Flight Projects Directorate home page. Project Master List access will be specified in the Project DM Plan or the Project Plan. Website access to the actual documents meets the intent of the Master List elements defined in MPG 7120.3.

9.2   MSFC DOCUMENTATION REPOSITORY

All configuration documentation that is baselined by a CCB per MPG 8040.1 shall be sent to the MSFC Documentation Repository. Data baselined by CCB AND released by the MSFC Release Desk is considered as a Class I record by the Repository. If it is not released by the Release Desk, then the Repository doesn't consider they are keeping the official record. In all other instances, the project is keeping the official record as specified in MWI 2210.1. Non-CCB documentation also be submitted to the Repository. EC approved non-CCB documentation will be submitted to the MSFC Repository by EC C&DM. If EC documentation is approved outside the C&DM monitored control process, it is the document developer's responsibility to provide the document to C&DM for submittal to the MSFC Repository".)   Only copies of historical records that are not baselined or expected to be revised will be maintained in the EC files. Such records include studies, proposals, presentations and design review presentation material. The EC Group will not maintain physical libraries of NASA, National Space Transportation System, or Space Station Program documents that are available electronically. The Flight Projects Team, C&DM Group will provide copies on request. All documentation submitted to the Repository by hard copy shall include an approved MSFC Form 2896. Electronic copies may be submitted to the MSFC Repository by completing the electronic input form. User ID and password must be obtained by contacting the Repository Office.

9.3   DOCUMENT AVAILABILITY

Document Libraries and availabilities are detailed in Appendix A.

9.4   RECORDS MANAGEMENT & QUALITY RECORDS

The External Carriers Group will identify and maintain Group and Project records in accordance with MPG 1440.2 and NPG 1441.1. The plan for the External Carriers Group records is shown in Table 1. Each project will build a Project Case File in accordance with NPG 1441.1 Schedule 8 that consists of the complete set of records that define the Project.

A record custodian will be assigned for each set of records. The record custodian will file a Records Plan, MSFC Form 2441, describing the records set under their custodianship, and specifying whether the record is Permanent, Temporary, etc., and the disposition of the record. The disposition states when the record can be disposed of or archived (retired), and whether it must be archived to the Federal Records Center (FRC) and National Archives.

9.4.1 QUALITY RECORDS

Quality Records by definition are those documents that are maintained to provide objective evidence of conformance to the MSFC Quality System. Each project manager defines their Quality Records and they are responsible for maintaining and identifying those Quality Records. Quality Records and retention schedules for each record are in accordance with MSFC Standard Procedure MSFC-P16.1 "Control of Quality Records."

Quality Records maintained by the External Carriers Group are contained in Organizational Instruction, Management Process FPD-OI-FD23.1, revision J.

APPENDIX A   LIBRARIES AND DOCUMENT LOCATIONS

A.1   PROGRAM AUTOMATED LIBARY (PALS)

- Access URL issa-www.jsc.nasa.gov/ss/issapt/sei/spt/isapps.html; select PALS [Program Automated Library system]; select Search Index, and enter a query using the base document number (e.g., "*50200*");
- To print the document, select the "VIEW PFD VERSION" (Acrobat Reader must be an application on the PC) and print by selecting the Netscape printer Icon located on the select bar; and
- Check for the latest change-pages and revisions.

A.2   VEHICLE MASTER DATABASE (VMDB)

- Access URL issa-www.jsc.nasa.gov/ss/issapt/sei/spt/isapps.html; select VMDB [Vehicle master Database]; select "Engineering Data Reports" (*No Password Required*), and enter a query; and
- Follow subsequent page instructions until desired information is accessed.

A.3   HARDWARE HISTROY RETRIEVAL SYSTEM (HHRS)

- Access URL issa-www.jsc.nasa.gov/ss/issapt/sei/spt/isapps.html; select HHRS [Hardware History Retrieval System]; select "Query", and enter a query;
- Additional "Plug-ins" may be necessary to view the documents in the HHRS system; and
- Follow subsequent page instructions until desired information is accessed.

A.4   PAYLOAD INTEGRATION LIBRARY SYSTEM

- For NSTS documentation access the following URL:
- http://sspweb.jsc.nasa.gov/pils/

A.5   MSFC REPOSITORY WEB BASED LINK

- Access URL https://msfcmr03.msfc.nasa.gov:1443/RightSite/ssi4
- Contact Charley Cox @ 256 544-4490 for help.